NPIC/TSSG/RED-076-70
3 March 1970

MEMORANDUM FOR: Executive Officer, Technical Services & Support Group

SUBJECT : Anticipated R&D Efforts Which Should Be Considered in Future Wiring and Air Conditioning Requirements for [redacted] 25X1

1. The following is some cursory information for utilization in developing rationale and justification for [redacted] wiring and air conditioning requirements. This paper will have the inherent weaknesses of any such document written on short notice without sufficient time to perform detailed investigations. However, the following dissertation may provide some insight into what RED foresees for the future. 25X1

2. One of the current R&D programs which will have significant impact over the next five-year period is the development of [redacted] Dry Silver Materials and Equipment. These materials are processed by the application of heat, as a consequence, they will introduce heat to the Building, thereby, further straining our air conditioning facilities. Since the heat currently anticipated is electrical in nature, they will have electrical requirements both in terms of the processing and the electricity for the air conditioning. Significant for planning purposes is the fact that these heat process materials lend themselves to exposure and development within the PI and graphics analyst areas, as well as for other obvious Photo Lab applications. The design parameters of our Dry Silver light tables and reader printers are not yet firm nor do we have any valid estimate of the total number of units required, but their impact could be considerable. 25X1

3. Equipment such as the graphics terminal, which would result from the current and anticipated [redacted] contracts could also be coming into the Building within the next three years. Their current and heat requirements would need to be allowed for. If the IIS units coming into the Building have not been computed in terms of current and heat implications, this should be done immediately. 25X1

4. The anticipated development of digital image manipulation facilities within [redacted] would result in additional computer capacity--up to that of an additional IBM 360, or a commensurate increase in 494 capacity--with obvious loads upon the electrical and air conditioning systems [redacted] 25X1 25X1 [redacted] 25X1

Declass Review by NIMA/DOD

SUBJECT: Anticipated R&D Efforts Which Should Be Considered in Future Wiring and Air Conditioning Requirements [redacted] 25X1

5. The 1540 Light Tables have already been discussed extensively, the Scan & Search PI Station, to some lesser degree. In the mensuration area, the Digitized Measuring Light Table prototype, currently under evaluation in ESD, could develop into a best seller and add additional burdens to the electrical and air conditioning systems. The Twin-Stage On-Line PI Comparator is intended for production use in IAS; while the 10" Stage Stereo Comparator, contemplated for development this year, is intended for multiple purchase by PSG. They, too, will have an impact, more upon the air conditioning than upon the electrical loads. The future employment of automatic stereo scanning equipment by 1974, or there abouts, could impact significant current and air conditioning loads upon the Center. These could be computed, given time. In a generic sense, the majority of 25X1 equipment to be brought into [redacted] over the next five years will tend to be more complex, more automated, and more and more commonly computer associated, either on-line to additional centralized computer capacity or with an integral digitized computer utilized as a control element.

6. There are attempts to speed up and quantify the image evaluation process. Results in this area will probably come from either the application of digital scanning or physical optics techniques. Both approaches require electricity and release heat to the room in significant quantities.

7. Furthermore, if the Center becomes involved to any extent with EIO then quantities of electro-optical printing equipment and electronic displays could be forthcoming in the next five or six years.

8. These are just a few thoughts on the matter, short, with none of the depth that would result from extensive examination. These should, however, help you to bound the problem and acquire an appreciation for the total extent of its implications.

[redacted] 25X1

Deputy Chief,
Research & Engineering Division, TSSG

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